

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 08 JUN 2004

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Applicant's or agent's file reference A0248.12WO.1	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/IT 02/00248	International filing date (day/month/year) 17.04.2002	Priority date (day/month/year) 17.04.2002	
International Patent Classification (IPC) or both national classification and IPC A01N25/02			
Applicant AGRIBIOTEC S.R.L. et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

I ☒ Basis of the opinion

II ☐ Priority

III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability


IV ☐ Lack of unity of invention

V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

VI ☐ Certain documents cited

VII ☐ Certain defects in the international application

VIII ☐ Certain observations on the international application

Date of submission of the demand 13.11.2003	Date of completion of this report 07.06.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Donovan-Beermann, T Telephone No. +49 89 2399-8213



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IT 02/00248

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-41 as originally filed

Claims, Numbers

1-7 received on 12.05.2004 with letter of 12.05.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IT02/00248

Ad Section V:

The application now relates to the use of a stable water emulsion as an adjuvant for substances having a fungicidal activity in preventive or curative treatments of diseases caused by fungi on agricultural cultivations wherein said vegetable oil is soybean oil and said soybean oil is emulsified in water to form a stable water emulsion comprising 40% of soybean oil by weight or volume, with respect to the overall weight or volume of the stable water emulsion.

The claims are therefore now restricted to the subject matter which was the subject of the International Search Report. The claims thus also satisfy the requirements of unity (Rule 13.1 PCT).

The amendments to the claims and description are considered allowable according to Art.34(2)(b) PCT in that they do not extend the scope of the application beyond that of the disclosure as originally filed. Claim 1 is seen to be based on claims 1 and 3 as filed, with the disclosure in the description at page 16, lines 20-30. Remaining claims have been correspondingly amended or deleted.

The following documents may be referred to in the present procedure:

- D1: DE-A-1542682
- D2: Weed Science, Vol.36(4), 1988, pp 504-509
- D3: JP-A-59157008
- D4: WO-A-9903342
- D5: Pesticide Science, Vol.46(3), 1996, pp 199-206

The use of vegetable oils such as soybean oil etc. as adjuvants in emulsions for active substances used in preventive or curative treatments of diseases or in weed control on agricultural cultivations is already known.

D1 describes the use of vegetable oils in compositions containing eg. fungicides, for use in agriculture. Examples 2 and 3 show adjuvant mixtures containing linseed oil or sunflower oil. Example 4 uses these with the fungicide copper oxychloride in aqueous compositions, which would therefore be emulsions.

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D2 describes the application of herbicides in various formulations containing soybean oil, either as ULV sprays or as water emulsions, to soybean cultivation.

D3 describes fungicide compositions using as carriers eg. soybean oil. The compositions may be emulsions. No details are available of the concentrations of adjuvants in the emulsions.

D4 describes vegetable oils such as rape oil in more complex adjuvant compositions (see claims). At least some of the rape oil remains as such in the complex (see Table on page 7). Examples 4 and 5 use fungicides with such adjuvants in emulsions.

D5 describes studies on the effects of rapeseed oil in emulsions of the fungicide dimethomorph used against downy mildew in vines (see abstract). Emulsifiable concentrates containing the fungicide + adjuvant are emulsified in tap water before application (see page 201, Section 2.3 and page 202, Table 1).

The subject matter of the present application is thus novel with regard to the prior art (Art.33(2) PCT).

D3 is considered as being the closest prior art, describing fungicidal compositions such as in the form of emulsions containing soybean oil. However, soybean oil is only one of possible adjuvants listed, and emulsions are only one of the possible formulation types. There is no motivation to choose the present amount of soybean oil in a water emulsion as adjuvant for fungicides. The examples provided show that the amount of active agent may be thereby reduced. Thus inventive step maybe acknowledged (Art.33(3) PCT).

The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT.

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 to D5 is not mentioned in the description, nor are these documents identified therein.

REPLACED BY
ART 34 ANDT

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C L A I M S

1. Use of a vegetable oil as an adjuvant for substances having a fungicide, bactericide and insecticide activity in preventive or curative treatments of diseases caused by fungi, bacteria and insects on agricultural cultivations.
2. Use of a vegetable oil as an adjuvant for substances having a herbicide activity in treatments for weed control on agricultural cultivations.
3. Use as claimed in claim 1 or 2, wherein the vegetable oil is emulsified in water to form a stable water emulsion comprising vegetable oil and water.
4. Use as claimed in claim 3, wherein the emulsion comprises water in an amount included between 15 and 85% by weight or volume, with respect to the overall weight or volume of the emulsion, and vegetable oil or vegetable oil mixtures in an amount included between 85 and 15% by weight or volume, with respect to the overall weight or volume of the emulsion.
5. Use as claimed in claim 4, wherein the vegetable oil is selected from: soybean oil, rape oil, sunflower oil, peanut oil, linseed oil, cottonseed oil, corn oil, castor oil, neem oil and olive oil; preferably soybean oil.
6. Use as claimed in claim 1, wherein fungus selection is made from the group comprising: *Pythium* spp.; *Phyphthora* spp.; *Peronospora* spp.; *Bremia* spp.; *Uncinula necator*; *Sclerotinia* spp.; *Venturia inequalis*; *Cercospora* spp.; *Alternaria* spp.; *Thielaviopsis* spp.; *Cladosporium* spp.; *Botritis* spp.; *Monilia* spp.;

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Verticillium spp..

7. Use as claimed in claim 1, wherein bacterium selection is made from the group comprising:
5 *Pseudomonas* spp.; *Xantomonas* spp.; *Erwinia* spp.;
Corynebacterium spp.; *Streptomyces* spp..

8. Use as claimed in claim 1 wherein insect selection is made from the group comprising: Coleoptera,
10 *Elateridae*, *Agriotes* spp.; *Chrysomelidae*, *Chaetocnema tibialis*; *Curculionidae*, *Conorrhynchus mendicus*; *Scolytidae*, *Scolytus* spp.; *Diptera*, *trypetidae*, *Ceratitis capitata*; *Hymenoptera*, *tenthredinidae*, *Hoplocampa brevis*; *Lepidoptera*, *pyraustidae*, *Ostrinia*
15 *nubilaris*; *Noctuidae*, *Mamestra brassicae*; *Pieridae*, *Pieris brassicae*; *Cossidae*, *Cossus cossus*; *Lithocolletidae*, *Lithocolletis blancardella*; *Tortricidae*, *Cydia pomonella*; *Cochylidae* *Eupoecilia ambiguella*; *Yponomeutidae*, *Prays oleae*; *Lymantridae*,
20 *Lymantria dispar*; *Orthoptera*, *Gryllotalpidae*, *Gryllotalpa gryllotalpa*, *Rhynchotha*, *Aphididae*, *Myzus persicae*; *Flatidae*, *Metcalfa pruinosa*; *Pentatomidae*, *Nezara viridula*; *Aleyrodidae*, *Trialeuroides vaporarium*; *Psyllidae*, *Psylla pyri*; *Diaspidinae*, *Quarospidiotus*
25 *perniciosus*; *Pseudococcidae*, *Planococcus citri*; *Monophlebidae*, *Pericerya purchasi*; *Coccidae*, *Saissetia oleae*; *Thysanoptera*, *Thrypidae*, *Thrips tabaci*; *Tetranychidae* mites, *Panonychus ulmi*; *Eriophyidae* mites, *Iculus fockeni*.

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9. Use as claimed in claim 2, wherein weed selection is made from the group comprising: *Abutilon theophrasti*; *Matricaria chamomilla*; *Ranunculus repens*; *Daucus*
35 *carota*; *Lamium purpureum*; *Amaranthus retroflexus*;

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Anagallis arvensis; Sinapis arvensis; Chenopodium album; Convolvulus arvensis; Solanum nigrum; Geranium molle; Euphorbia peplus; Polygonum aviculare; Papaver rhoeas; Vicia sativa; Veronica persica; Avena spp.;
5 *Lolium spp.; Echinochloa crusgalli.*

10. Use as claimed in claim 1 or 2, wherein the cultivations submitted to treatment are selected from the group comprising: horticultural cultivations,
10 tomato, potato, lettuce, strawberry, onion, celery, melon, marrow, aubergine, artichoke, French bean, cabbage; flower and ornamental cultivations, rhododendron, begonia, camellia, chrysanthemum, carnation, stork's bill, gerbera, lily, orchid,
15 petunia, primula, rose; arboreal cultivations, dicotyledon, citrus, cherry, fig, almond, apple, walnut, olive, pear, peach, plum trees, vine, flower and ornamental trees.

20 11. A fungicide, bactericide or insecticide composition, characterized in that it comprises:
- a stable water emulsion of vegetable oil; and:
- at least one substance having a fungicide, bactericide or insecticide activity.

25 12. A herbicide composition, characterized in that it comprises:
- a stable water emulsion of vegetable oil; and:
- at least one substance having a herbicide activity.

30 13. A composition as claimed in claim 11 or 12, wherein the vegetable oil is emulsified in water to form a stable water emulsion comprising a vegetable oil and water.

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14. A composition as claimed in claim 13, wherein the emulsion comprises water in an amount in the range of 15 to 85% by weight or volume, with respect to the overall weight or volume of the emulsion, and vegetable
5 oil or vegetable oil mixtures in an amount in the range of 85 to 15% by weight or volume, with respect to the overall weight or volume of the emulsion.

15. A composition as claimed in claim 14, wherein the
10 vegetable oil is selected from: soybean oil, rape oil, sunflower oil, peanut oil, linseed oil, cottonseed oil, corn oil, castor oil, neem oil and olive oil; preferably soybean oil.

15 16. Use of the composition as claimed in claim 11 for preventive or curative treatments of diseases caused by fungi, bacteria and insects on agricultural cultivations.

20 17. Use of the composition as claimed in claim 12 in treatments for weed control on agricultural cultivations.

18. Use as claimed in claim 16, wherein fungus
25 selection is made from the group comprising: *Pythium* spp.; *Phytophthora* spp.; *Peronospora* spp.; *Bremia* spp.; *Uncinula necator*; *Sclerotinia* spp.; *Venturia inequalis*; *Cercospora* spp.; *Alternaria* spp.; *Thielaviopsis* spp.; *Cladosporium* spp.; *Botritis* spp.; *Monilia* spp.;
30 *Verticillium* spp..

19. Use as claimed in claim 16, wherein bacterium
selection is made from the group comprising:
Pseudomonas spp.; *Xantomonas* spp.; *Erwinia* spp.;
35 *Corynebacterium* spp.; *Streptomyces* spp..

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20. Use as claimed in claim 16, where insect selection is made from the group comprising: Coleoptera, Elateridae, Agriotes spp.; Chrysomelidae, Chaetocnema tibialis; Curculionidae, Coniorrhynchus mendicus; 5 Scolytidae, Scolytus spp.; Diptera, Trypetidae, Ceratitis capitata; Hymenoptera, Tenthredinidae, Hoplocampa brevis; Lepidoptera, Pyraustidae, Ostrinia nubilalis; Noctuidae, Mamestra brassicae; Pieridae, Pieris brassicae; Cossidae, Cossus cossus; 10 Lithocolletidae, Lithocolletis blancardella; Tortricidae, Cydia pomonella; Cochylidae Eupoecilia ambiguella; Yponomeutidae, Prays oleae; Lymantridae, Lymantria dispar; Orthoptera, Gryllotalpidae, Gryllotalpa gryllotalpa, Rhynchota, Aphididae, Myzus 15 persicae; Flatidae, Metcalfa pruinosa; Pentatomidae, Nezara viridula; Aleyrodidae, Trialeuroides vaporarium; Psyllidae, Psylla pyri; Diaspidinae, Quarospidiotus perniciosus; Pseudococcidae, Planococcus citri; Monophlebidae, Pericerya purchasi; Coccidae, Saissetia 20 oleae; Thysanoptera, Thripidae, Thrips tabaci; Tetranychidae mites, Panonychus ulmi; Eriophyidae mites, Iculus fockeni.

21. Use as claimed in claim 17, wherein weed selection 25 is made from the group comprising: Abutilon theophrasti; Matricaria chamomilla; Ranunculus repens; Daucus carota; Lamium purpureum; Amaranthus retroflexus; Anagallis arvensis; Sinapis arvensis; Chenopodium album; Convolvulus arvensis; Solanum 30 nigrum; Geranium molle; Euphorbia peplus; Polygonum aviculare; Papaver rhoeas; Vicia sativa; Veronica persica; Avena spp.; Lolium spp.; Echinochloa crusgalli.

35 22. Use as claimed in claim 16 or 17, wherein the

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cultivations submitted to treatment are selected from the group comprising: horticultural cultivations, tomato, potato, lettuce, strawberry, onion, celery, melon, marrow, aubergine, artichoke, French bean, 5 cabbage; flower and ornamental cultivations, rhododendron, begonia, camellia, chrysanthemum, carnation, stork's bill, gerbera, lily, orchid, petunia, primula, rose; arboreal cultivations, dicotyledon, citrus, cherry, fig, almond, apple, 10 walnut, olive, pear, peach, plum trees, vine, flower and ornamental trees.